

In the Claims:

Claims 1 to 17 (Canceled).

1 18. (Previously presented) A procedure for calculating a tire  
2 contact length (6), whereby a sensor transponder (1) is  
3 fitted with at least one acceleration sensor arranged on  
4 the inner side of a running surface (2) of a tire (9), the  
5 signals from the acceleration sensor are compared with  
6 threshold values and are then integrated, and the tire  
7 contact length (6) is calculated independently of the  
8 velocity using quotient formation.

1 19. (Previously presented) The procedure according to claim 18,  
2 characterized in that the tire contact area (tread) is  
3 calculated from the tire contact length (6) using  
4 tire-specific parameters.

1 20. (Previously presented) The procedure according to claim 19,  
2 characterized in that the wheel load is calculated using  
3 the tire contact area and the tire pressure.

Claims 21 to 31 (Canceled).

1 32. (Currently amended) A method of ~~using the apparatus~~  
2 ~~according to claim 29 to calculate~~ calculating at least a

3 tire contact length of ~~[[the]]~~ a rotating tire of ~~[[the]]~~  
4 a vehicle, comprising the steps:

5 a) as the tire rotates, measuring ~~[[said]]~~ acceleration  
6 data of the tire using ~~[[said]]~~ an acceleration sensor  
7 arranged on the tire;

8 b) ~~using said transponder~~ transmitting ~~[[said]]~~ measured  
9 data comprising said acceleration data to ~~[[said]]~~ a  
10 receiver arrangement, and providing said measured data  
11 from said receiver arrangement to ~~[[said]]~~ a central  
12 unit comprising an evaluation unit arranged in the  
13 vehicle;

14 c) in said evaluation unit evaluating said acceleration  
15 data to determine therefrom a first result dependent  
16 on a duration of said acceleration sensor passing  
17 through said tire contact length during one rotation  
18 of the tire and a second result indicative of a  
19 duration of said one rotation of the tire, wherein  
20 said evaluating comprises comparing said acceleration  
21 data to a threshold ~~using said comparator and~~  
22 ~~controlling said integrator with an output signal of~~  
23 ~~said comparator, and~~ integrating said acceleration  
24 data dependent on said comparing; and

25 d) forming a quotient of said first result relative to  
26 said second result to determine said tire contact  
27 length relative to a circumference of the tire and  
28 independent of a tire rotation speed of the rotation  
29 of the tire.

1 33. (Previously presented) The method according to claim 32,  
2 further comprising a step of calculating a tire contact  
3 area of the tire from said tire contact length and at least  
4 one tire-specific parameter of the tire.

1 34. (Currently amended) The method according to claim 33,  
2 ~~wherein said sensor transponder unit further comprises a~~  
3 ~~pressure sensor that is arranged and adapted to measure~~  
4 further comprising measuring an air pressure in the tire  
5 and ~~to provide~~ providing corresponding pressure data as  
6 part of said measured data to said transponder, ~~wherein~~  
7 ~~said method further comprises a step of~~ central unit, and  
8 calculating a wheel load of the tire from at least said  
9 tire contact area and said pressure data.

[RESPONSE CONTINUES ON NEXT PAGE]